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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,215	08/06/2001	Brian Gventer	NC25571	8983

26343 7590 05/18/2004

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EXAMINER

BELL, MELTIN

ART UNIT	PAPER NUMBER
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2121

DATE MAILED: 05/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/923,215	Applicant(s) GVENTER, BRIAN	
	Examiner Meltin Bell	Art Unit 2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 1,3,4 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/12/02, 3/13/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is responsive to application **09/923,215** filed **08/06/2001**.

Claims 1-9 have been examined.

Information Disclosure Statement

Applicant is respectfully reminded of the ongoing Duty to disclose 37 C.F.R. 1.56 all pertinent information and material pertaining to the patentability of applicant's claimed invention, by submitting in a timely manner PTO-1449, Information Disclosure Statement (IDS) with the filing of applicant's application or thereafter.

The information disclosure statement filed 3/12/02 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because of missing or inaccurate information in the listing:

- The USPN of the considered Arathorn reference is 6,269,354.

It has been placed in the application file. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

Documents not listed or included with either of the 3/12/02 or 3/13/03 Information

Disclosure Statements were also noted:

- McCulloch et al in paragraph [0010] on page 3, line 23
- Hebb in paragraph [0011] on page 4, line 4
- Schalkoff in paragraph [0014] on page 5, line 13

Drawings

The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is required in correcting any errors of which applicant may become aware in the drawings.

The drawings are objected to because:

- Fig. 5's Test 230 'RXD NAHO BER' would read better as 'RXD MAHO BER' as suggested on page 13, line 1 [0049]

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is required in correcting any errors of which applicant may become aware in the specification.

The disclosure is objected to because of the following informalities:

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- The use of the trademark YIELDSHIELD has been attempted in the title of this application. It is noted that this is not a live trademark. Live trademarks should be capitalized wherever they appear and be accompanied by the generic terminology. Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.
- 'analogous' on page 4, line 12 [0012] would read well as 'analog'
- 'an tester' on page 8, line 6 [0029] would read well as 'a tester'
- 'an user interface on page 8, line 7 [0029] would read well as 'a user interface'
- '2600' on page 9, line 17 [0034] would read well as '260'
- '610' on page 9, line 20 [0034] would read well as '260'
- 'NMP' is not defined on page 12, line 3 [0045]
- '0400 to 1500' on page 12, line 4 [0045] would read well as '04 to 15'
- '0400 and 1200' on page 14, line 4 [0053] would read well as '04 and 12'
- 'Level 2' on page 13, line 16 [0051] would read well as 'PL2'
- The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: Artificial Intelligence Based Manufacturing Monitoring Systems and Method

Appropriate correction is required.

Claim Objections

Claims 1, 3-4 and 9 are objected to because of the following informalities:

Regarding claim 1:

- 'A system' would read well as 'A computer-implemented system'

Regarding claim 3:

- 'said production yield trends' would read well as 'said production yield'

Regarding claim 4:

- 'said production yield trends' would read well as 'said production yield'

Regarding claim 9:

- 'A method for system' would read well as 'A computer-implemented method'

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites the limitation "said weight" in line 2 of the claim (line 17 on page 17) . There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation " said weight " in line 2 of the claim (line 19 on page 17). There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Wang et al* USPN 5,566,092 (October 15, 1996) in view of *Neves et al* "An artificial neural network-genetic based approach for time series forecasting" (3-5 Dec. 1997).

Regarding claim 1:

Wang et al teaches,

- an artificial neural network (ANN) for recognizing and classifying patterns (column 6, lines 38-46, "The identification of...monitoring and diagnostics")
- an expert system (ES) coupled to said artificial neural network to provide a knowledge base and apply cognitive heuristics to execute responses based on patterns information received from said artificial neural network (column 7, lines 9-15, "One of the... a hybrid system")

However, *Wang et al* doesn't explicitly teach an artificial neural network (ANN) for recognizing and classifying production yield patterns or an expert system (ES) coupled

to said artificial neural network to provide a knowledge base and apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network while *Neves et al* teaches,

- an artificial neural network (ANN) for recognizing and classifying production yield patterns (Abstract, "Genetic Algorithms (GAs)... batch chemical processes")
- said artificial neural network to apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network (page 9, right column, paragraph 1, sentence 2, "The purpose in... order to extrapolate")

Motivation - The portions of the claimed system would have been a highly desirable feature in this art for

- Accurate forecasting (*Neves et al*, page 9, right column, paragraph 2, "Conventional TSF methods...the TS data")
- Accurate fault diagnosis (*Wang et al*, Abstract, "The invention provides...four T800-25 transputers")

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to combine *Wang et al* with *Neves et al* to obtain the invention specified in claim 1, a system for monitoring a manufacturing production line. The modification would have been obvious because one of ordinary skill in the art would have been motivated to accurately diagnose and forecast behaviors in a manufacturing production line.

Regarding claim 2:

The rejection of claim 1 is incorporated. Claim 2's further limitations are taught in
Neves et al:

- said ANN identifies a plurality of yield trends and assigns a weight to at least one of said production yield trends; and wherein said ANN outputs notification for identifying each of said at least one weighted production yield trend having an assigned weight beyond a predetermined yield-degrading threshold value (page 10, left column, paragraph 1, sentences 2-9, "Autocorrelations are useful... the GANN's systems"; page 10, right column, paragraphs 2-3, "One step ahead... the sigmoid1 one")

Wang et al:

- said ANN outputs notification having an assigned weight beyond a predetermined yield-degrading threshold value (column 23, lines 29-48, "The rest of... a threshold value")

Therefore, claim 2 is rejected under the same rationale as claim 1.

Regarding claim 3:

The rejection of claim 1 is incorporated. Claim 3's further limitations are taught in

Wang et al:

- instructions for training said ANN to assign said weight to each of said production yield trends based on historical case studies (column 30, lines 29-39, "the present invention ... one may begin")

Neves et al:

- instructions for training said ANN to assign said weight to each of said production yield trends based on historical case studies (page 10, left column, paragraph 1, sentences 2-9, "Autocorrelations are useful...the GANN's systems"; page 10, right column, paragraphs 2-3, "One step ahead...the sigmoid1 one")

Therefore, claim 3 is rejected under the same rationale as claim 1.

Regarding claim 4:

The rejection of claim 1 is incorporated. Claim 4's further limitations are taught in *Wang et al*:

- instructions for training said ANN to assign said weight to each of said production yield trends based on a base of knowledge (column 30, lines 29-39, "the present invention ... one may begin")

Neves et al:

- instructions for training said ANN to assign said weight to each of said production yield trends based on a base of knowledge (page 10, left column, paragraph 1, sentences 2-9, "Autocorrelations are useful...the GANN's systems"; page 10, right column, paragraphs 2-3, "One step ahead...the sigmoid1 one")

Therefore, claim 4 is rejected under the same rationale as claim 1.

Claims 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Wang et al* USPN 5,566,092 (October 15, 1996) in view of *Neves et al* "An artificial neural network-genetic based approach for time series forecasting" (3-5 Dec. 1997) and

in further view of *Pires* "Remote Monitoring and Inspection of Robotic Manufacturing Cells" (8-12 July 2001).

Regarding claim 5:

Wang et al teaches,

- an artificial neural network (ANN) for recognizing and classifying patterns (column 6, lines 38-46, "The identification of... monitoring and diagnostics")
- an expert system (ES) coupled to said artificial neural network to provide a knowledge base and apply cognitive heuristics to execute responses based on patterns information received from said artificial neural network (column 7, lines 9-15, "One of the... a hybrid system")
- instructions to report diagnosis results to a user (column 25, lines 39-45, "the diagnosis result ... and 680 respectively"; column 30, lines 29-39, "the present invention ... one may begin")

However, *Wang et al* doesn't explicitly teach an artificial neural network (ANN) for recognizing and classifying production yield patterns, an expert system (ES) coupled to said artificial neural network to provide a knowledge base and apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network or instructions to send a report to predetermined individuals while *Neves et al* teaches,

- an artificial neural network (ANN) for recognizing and classifying production yield patterns (Abstract, "Genetic Algorithms (GAs)... batch chemical processes")

- said artificial neural network to apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network (page 9, right column, paragraph 1, sentence 2, "The purpose in...order to extrapolate")

Pires teaches,

- instructions to send a report to predetermined individuals (Abstract, "This paper is ... presented in this paper")

Motivation - The portions of the claimed system would have been a highly desirable feature in this art for

- Simplifying the manufacturing system (*Pires*, page 554, left column, section IV, sentence 1, "This paper is ... monitor industrial setups")
- Accurate forecasting (*Neves et al*, page 9, right column, paragraph 2, "Conventional TSF methods...the TS data")
- Accurate fault diagnosis (*Wang et al*, Abstract, "The invention provides...four T800-25 transputers")

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to combine *Wang et al* with *Neves et al* and *Pires* to obtain the invention specified in claim 5, a system for monitoring a manufacturing production line.

The modification would have been obvious because one of ordinary skill in the art would have been motivated to simply and accurately diagnose as well as report behaviors in a manufacturing production line.

Regarding claim 6:

Wang et al teaches,

- an artificial neural network (ANN) for recognizing and classifying patterns (column 6, lines 38-46, "The identification of... monitoring and diagnostics")
- an expert system (ES) coupled to said artificial neural network to provide a knowledge base and apply cognitive heuristics to execute responses based on patterns information received from said artificial neural network (column 7, lines 9-15, "One of the... a hybrid system")
- instructions to report diagnosis results to a user (column 25, lines 39-45, "the diagnosis result ... and 680 respectively"; column 30, lines 29-39, "the present invention ... one may begin")
- instructions to alert maintenance personnel (column 8, lines 35-42, "The present invention. ... and fuzzy logic"; column 30, lines 29-39, "the present invention ... one may begin")

However, *Wang et al* doesn't explicitly teach an artificial neural network (ANN) for recognizing and classifying production yield patterns, an expert system (ES) coupled to said artificial neural network to provide a knowledge base and apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network or instructions to send a report to predetermined individuals while *Neves et al* teaches,

- an artificial neural network (ANN) for recognizing and classifying production yield patterns (Abstract, "Genetic Algorithms (GAs)... batch chemical processes")

- said artificial neural network to apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network (page 9, right column, paragraph 1, sentence 2, "The purpose in... order to extrapolate")

Pires teaches,

- instructions to provide an alarm signal (Abstract, "This paper is ... presented in this paper")

Motivation - The portions of the claimed system would have been a highly desirable feature in this art for

- Simplifying the manufacturing system (*Pires*, page 554, left column, section IV, sentence 1, "This paper is ... monitor industrial setups")
- Accurate forecasting (*Neves et al*, page 9, right column, paragraph 2, "Conventional TSF methods...the TS data")
- Accurate fault diagnosis (*Wang et al*, Abstract, "The invention provides...four T800-25 transputers")

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to combine *Wang et al* with *Neves et al* and *Pires* to obtain the invention specified in claim 6, a system for monitoring a manufacturing production line.

The modification would have been obvious because one of ordinary skill in the art would have been motivated to simply and accurately diagnose as well as report behaviors in a manufacturing production line.

Regarding claim 7:

Wang et al teaches,

- an artificial neural network (ANN) for recognizing and classifying patterns (column 6, lines 38-46, "The identification of... monitoring and diagnostics")
- an expert system (ES) coupled to said artificial neural network to provide a knowledge base and apply cognitive heuristics to execute responses based on patterns information received from said artificial neural network (column 7, lines 9-15, "One of the... a hybrid system")
- instructions to report diagnosis results to a user (column 25, lines 39-45, "the diagnosis result ... and 680 respectively"; column 30, lines 29-39, "the present invention ... one may begin")
- instructions to alert maintenance personnel (column 8, lines 35-42, "The present invention. ... and fuzzy logic"; column 30, lines 29-39, "the present invention ... one may begin")

However, *Wang et al* doesn't explicitly teach an artificial neural network (ANN) for recognizing and classifying production yield patterns, an expert system (ES) coupled to said artificial neural network to provide a knowledge base and apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network or instructions to send a report to predetermined individuals while *Neves et al* teaches,

- an artificial neural network (ANN) for recognizing and classifying production yield patterns (Abstract, "Genetic Algorithms (GAs)... batch chemical processes")

- said artificial neural network to apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network (page 9, right column, paragraph 1, sentence 2, "The purpose in... order to extrapolate")

Pires teaches,

- instructions to send a pager message to predetermined individuals (Abstract, "This paper is ... presented in this paper")

Motivation - The portions of the claimed system would have been a highly desirable feature in this art for

- Simplifying the manufacturing system (*Pires*, page 554, left column, section IV, sentence 1, "This paper is ... monitor industrial setups")
- Accurate forecasting (*Neves et al*, page 9, right column, paragraph 2, "Conventional TSF methods...the TS data")
- Accurate fault diagnosis (*Wang et al*, Abstract, "The invention provides...four T800-25 transputers")

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to combine *Wang et al* with *Neves et al* and *Pires* to obtain the invention specified in claim 8, a system for monitoring a manufacturing production line.

The modification would have been obvious because one of ordinary skill in the art would have been motivated to simply and accurately diagnose as well as report behaviors in a manufacturing production line.

Regarding claim 8:

Wang et al teaches,

- an artificial neural network (ANN) for recognizing and classifying patterns (column 6, lines 38-46, "The identification of... monitoring and diagnostics")
- an expert system (ES) coupled to said artificial neural network to provide a knowledge base and apply cognitive heuristics to execute responses based on patterns information received from said artificial neural network (column 7, lines 9-15, "One of the... a hybrid system")
- instructions to report diagnosis results to a user (column 25, lines 39-45, "the diagnosis result ... and 680 respectively"; column 30, lines 29-39, "the present invention ... one may begin")
- instructions to alert maintenance personnel (column 8, lines 35-42, "The present invention. ... and fuzzy logic"; column 30, lines 29-39, "the present invention ... one may begin")

However, *Wang et al* doesn't explicitly teach an artificial neural network (ANN) for recognizing and classifying production yield patterns, an expert system (ES) coupled to said artificial neural network to provide a knowledge base and apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network or instructions to send a report to predetermined individuals while *Neves et al* teaches,

- an artificial neural network (ANN) for recognizing and classifying production yield patterns (Abstract, "Genetic Algorithms (GAs)... batch chemical processes")

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- said artificial neural network to apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network (page 9, right column, paragraph 1, sentence 2, "The purpose in... order to extrapolate")

Pires teaches,

- instructions to adjust the production process in accordance with the knowledge base of the system (page 551, right column, section II, "Basically, when we ... and accepted standards")

Motivation - The portions of the claimed system would have been a highly desirable feature in this art for

- Simplifying the manufacturing system (*Pires*, page 554, left column, section IV, sentence 1, "This paper is ... monitor industrial setups")
- Accurate forecasting (*Neves et al*, page 9, right column, paragraph 2, "Conventional TSF methods... the TS data")
- Accurate fault diagnosis (*Wang et al*, Abstract, "The invention provides... four T800-25 transputers")

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to combine *Wang et al* with *Neves et al* and *Pires* to obtain the invention specified in claim 8, a system for monitoring a manufacturing production line. The modification would have been obvious because one of ordinary skill in the art would have been motivated to simply and accurately diagnose as well as report and change behaviors in a manufacturing production line.

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Regarding claim 9:

Wang et al teaches,

- recognizing patterns (column 6, lines 38-42, "The identification of ... type of problem")
- classifying at least one of said patterns (column 6, lines 42-46, "Normally, these techniques ... monitoring and diagnostics")
- providing notification to expert system (ES) when a predetermined yield-degrading threshold value is passed (column 23, lines 29-48, "The rest of... a threshold value")
- executing responses from said expert system (ES) in accordance with said expert systems knowledge base (column 7, lines 9-15, "One of the ... a hybrid system")

However, *Wang et al* doesn't explicitly teach weighting said at least one production yield trend or providing notification to expert system (ES) when at least one of said weighted trends passes a predetermined yield-degrading threshold value while *Neves et al* teaches,

- recognizing a plurality of production yield patterns (Abstract, "Genetic Algorithms (GAs)...batch chemical processes")
- classifying at least one of said production yield patterns into at least one production yield trend (page 10, left column, paragraph 1, sentences 2-9, "Autocorrelations are useful...the GANN's systems")
- weighting said at least one production yield trend (page 10, right column, paragraph 2, "One step ahead ... in the form $n - nh - 1$ ")

- providing notification to expert system (ES) when at least one of said weighted trends passes a predetermined yield-degrading threshold value (page 10, right column, paragraph 3, "Some activation functions...the sigmoid1 one")

Pires teaches,

- providing notification when at least one of said weighted trends passes a predetermined yield-degrading threshold value (Abstract, "This paper is ... presented in this paper"; page 551, left column, section I, paragraph 1, "Today manufacturing setups ... an easy task")

Motivation - The portions of the claimed method would have been a highly desirable feature in this art for

- Simplifying the manufacturing system (*Pires*, page 554, left column, section IV, sentence 1, "This paper is ... monitor industrial setups")
- Accurate forecasting (*Neves et al*, page 9, right column, paragraph 2, "Conventional TSF methods...the TS data")
- Accurate fault diagnosis (*Wang et al*, Abstract, "The invention provides...four T800-25 transputers")

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to combine *Wang et al* with *Neves et al* and *Pires* to obtain the invention specified in claim 9, a method for system for monitoring a manufacturing production line using an artificial neural network (ANN) coupled to an expert system.

The modification would have been obvious because one of ordinary skill in the art would have been motivated to simply and accurately diagnose as well as report behaviors in a manufacturing production line.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- *Alspector*; US 4874963 A; Neuromorphic learning networks
- *Colley et al*; US 5251268 A; Integrated method and apparatus for character and symbol recognition
- *Ulug*; US 5467428 A; Artificial neural network method and architecture adaptive signal filtering
- *Yemini et al*; US 5528516 A; Apparatus and method for event correlation and problem reporting
- *Wang et al*; US 5566092 A; Machine fault diagnostics system and method
- *Hall*; US 5586033 A; Control system with neural network trained as general and local models
- *Engel et al*; US 5761383 A; Adaptive filtering neural network classifier
- *Yemini et al*; US 6249755 B1; Apparatus and method for event correlation and problem reporting

- *Arathorn*; US 6269354 B1; General purpose recognition e-circuits capable of translation-tolerant recognition, scene segmentation and attention shift, and their application to machine vision
- *Gventer*; US 6563301 B2; Advanced production test method and apparatus for testing electronic devices
- *Neves et al*; An artificial neural network-genetic based approach for time series forecasting; IVth Brazilian Symposium on Neural Networks Proceedings; 3-5 Dec. 1997; pp 9-13
- *Pires*; Remote monitoring and inspection of robotic manufacturing cells; IEEE/ASME International Conference on Advanced Intelligent Mechatronics Proceedings; Vol. 1; 8-12 July 2001; pp 551-554
- *Gardner et al*; Data mining solves tough semiconductor manufacturing problems; Proceedings of the sixth ACM SIGKDD international conference on Knowledge discovery and data mining; August 2000
- *Murray et al*; A simulation-based cost modeling methodology for evaluation of interbay material handling in a semiconductor wafer fab; Winter Simulation Conference Proceedings; Vol. 2; 10-13 Dec. 2000; pp 1510-1517


Any inquiry concerning this communication or earlier communications from the Office should be directed to Melvin Bell whose telephone number is 703-305-0362. This Examiner can normally be reached on Mon - Fri 7:30 am - 4:30 pm.

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If attempts to reach this Examiner by telephone are unsuccessful, his supervisor, Anil Khatri, can be reached on 703-305-0282. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

MB *Tom N.*


Anthony Knight
Supervisory Patent Examiner
Group 3600